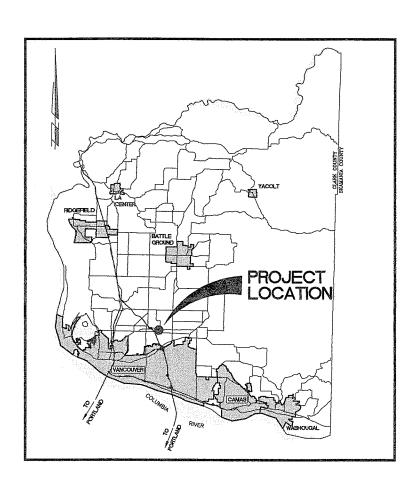
CAPITAL IMPROVEMENTS PROGRAM COUNTY ROAD PROJECT #341111

NE 81ST STREET

VICINITY OF NE 90TH AVENUE TO NE 91ST AVENUE

PLANS FOR THE CONSTRUCTION OF ROADWAYS, CURB, SIDEWALK, AND CULVERT





INDEX OF SHEETS

1 CV1 COVER SHEET
2 SQ1 SUMMARY OF QUANTITIES AND LEGEND
3 TS1 TYPICAL SECTIONS & DETAILS
4 EC1 EROSION CONTROL PLAN
5 EC2 EROSION CONTROL DETAILS
6 PP1 PLAN & PROFILE
7 SC1 PADDEN CREEK PLAN & PROFILE
8 SC2 WALL PROFILES

COMMISSIONERS:

BETTY SUE MORRIS, Chair MARC BOLDT, Commissioner STEVEN J. STUART, Commissioner



DEPARTMENT OF PUBLIC WORKS



PRELIMINARY 90% REVIEW SET

ENG2005-00158

Quality Assurance	Project Manager	Public Works Director/ County Engineer	
Heath H. Henderson, PE	Richard Gamble, PE	Peter Capell, P.E.	

	proud past, promising future
	CLARK COUNTY WASHINGTON
	Recommended for Approval
Grading _	Erosion

ENGINEERING PROGRAM - DESIGN SECTION

SUMMARY OF QUANTITIES

ITEM	APPROX.		
NO.	QUANTITY	UNIT	DESCRIPTION
1	1	LS	MOBILIZATION
2	-1	CALC.	MINOR CHANGE
3	54	SF	CONSTRUCTION SIGNS CLASS "A"
4	1	LS	CLEARING AND GRUBBING
5	1	LS	ROADSIDE CLEANUP
6	1	LS	REMOVAL OF STRUCTURES AND OBSTRUCTION
7	300	CY	ROADWAY EXCAVATION (INCL. HAUL)
8	62	TN	CRUSHED SURFACING BASE COURSE
9	45	TN	ASPHALT CONCRETE PAVEMENT CL. A PG 64-22
10	104	LF	SAWCUT EXISTING PAVEMENT
11	15	CY	GRAVEL BACKFILL FOR WALLS
12	75	CY	GRAVEL BACKFILL FOR PIPE ZONE BEDDING
13	177	SF	RETAINING WALL
14	50	LF	PRECAST CONCRETE CULVERT
15	135	SF	PRECAST HEADWALL
16	26	LF	STORM SEWER PIPE, 12 IN. DIAM.
17	2	EACH	CATCH BASIN TYPE 1
18	25	LF	SLOTTED DRAIN, 12 IN. DIAM.
19	2	EACH	CONNECTION TO DRAINAGE STRUCTURE
20	0.02	ACRE	SEEDING AND MULCHING
21	1	LS	STREAM FLOW BYPASS
22	1	LS	EROSION CONTROL
23	4	EACH	INLET PROTECTION
24	40	HOUR	ESC LEAD
25	1	LS	CONSTRUCTION STORMWATER FILTERING
26	1	LS	SPILL PREVENTION PLAN
27	95	LF	CEMENT CONC. BARRIER CURB AND GUTTER
28	24	SY	CEMENT CONCRETE SIDEWALK (INCL. RAMP)
29	10	CY	HAND PLACED RIPRAP

LEGEND

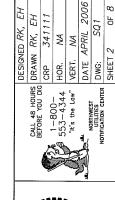
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ROW LINE NEW EDGE OF PAVEMENT NEW CURB LINE NEW CENTER LINE NEW FENCE LINE NEW STORM DRAIN OR CULVERT NEW FILL LIMITS NEW CUT LIMITS SAWCUT LINE PERMANENT SLOPE EASEMENT NEW SILT FENCE EXISTING PROPERTY LINE EXISTING EDGE OF PAVEMENT EXISTING CURB LINE EXISTING CENTER LINE EXISTING FENCE LINE EXISTING TELEPHONE LINE EXISTING WATER LINE EXISTING UNDERGROUND ELECTRIC EXISTING SANITARY SEWER LINE EXISTING STORM DRAINAGE EXISTING GAS LINE EXISTING CULVERT EXISTING DITCH CENTER LINE EXISTING GUARDRAIL

SYMBOLS

<u> </u>	NEW CATCH BASIN (CB)	O	EXISTING CURB INLET (CI)
	NEW MANHOLE (MH)		EXISTING CATCH BASIN (CB)
	NEW CURB INLET (CI)	\bigcirc	EXISTING STORM MH
	NEW COMBINATION CURB INLET (CCI)		EXISTING MISC MH
<u>~</u>	NEW FIRE HYDRANT	**	EXISTING SHRUB
Øi _{NB}	NEW MAIL BOX	X	EXISTING CONIFEROUS TREE
- м в ∰	NEW HANDICAP RAMP	앉	EXISTING DECIDUOUS TREE
		-	EXISTING SIGN
(000)	CURVE TABLE	\odot	EXISTING DECIDUOUS TREE
\otimes	EXISTING TRANSFORMER	J	EXISTING J BOX
\boxtimes	EXISTING ELEC TOWER	Ð	EXISTING TELEPHONE MANHOLE
\mathbb{O}_{SAN}	EXISTING SANITARY SEWER MH	\rightarrow	EXISTING TELEPHONE POLE
q	EXISTING FIRE HYDRANT	\rightarrow	EXISTING LIGHT
O _{CL}	EXISTING CLEAN OUT	€—	EXISTING GUY ANCHOR
-K-	EXISTING GAS VALVE	\circ	EXISTING POWER POLE
$\stackrel{\frown}{\ominus}$	EXISTING WATER METER	□r ^{M8}	EXISTING MAIL BOX
-₩ 	EXISTING WATER VALVE		EXISTING TELEPHONE PEDESTAL
¤	EXISTING SIGNAL POLE	\odot	EXISTING SPRINKLER HEAD
	EXISTING TELEPHONE VAULT	<i>△</i> ⊗	TRAVERSE POINT
tv	EXISTING TELEVISION BOX	Ŵ	TEST HOLE CURB RAMP
uu	EXISTING BRUSH LINE	(1)	
000000	EXISTING HEDGE	•	EXISTING WELL

90% REVIEW SET





NE 81st STREET
MARY OF QUANTITIES & LEGEN

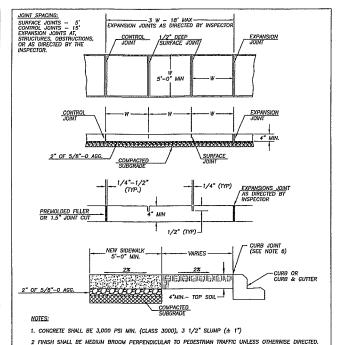
ENGINEERING PROGRAM

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- 1. CONCRETE SHALL BE 3000 PSI MIN. (CLASS 3000) 3 1/2" SLUMP (MAX.)

- BASE COURSE SHALL BE TO SUBGRADE OF STREET SECTION OR 3 INCHES, WHICHEVER IS GREATER, AND SHALL EXTEND 6" BEHIND THE CURB.
- 6. DRAINAGE WEEP HOLES TO BE 3" I.D. PLASTIC PIPE WITH COUPLING. FINISH PIPE END FLUSH WITH FACE CURB.
- 7. GROUT ANY VOIDS IN CONCRETE SURROUNDING PIPE.
- B. DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE CORE DRILLED.
- ALL MATERIALS AND WORKMANSHIP FOR TYPE E-1 & A-1 SHALL BE IN ACCORDANCE WITH WOOT STANDARD PLAN No. F-1, APPROVED 7/18/97 OR MOST CURRENT REVISION.



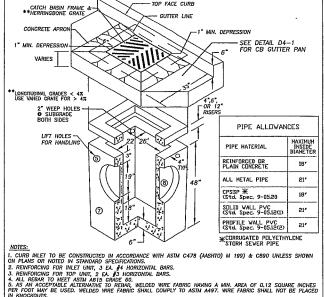


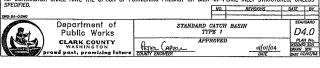
5. ALL JOINTS AND EDGES SHALL BE FINISHED WITH 1/4" RADIUS EDGER (3" SMOOTH EACH SIDE)

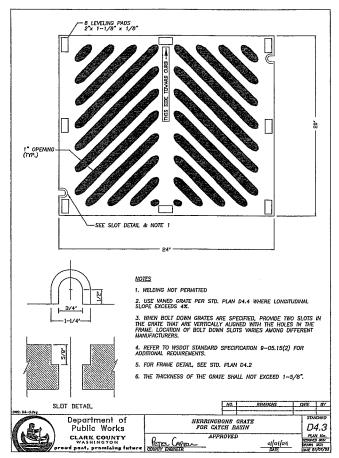
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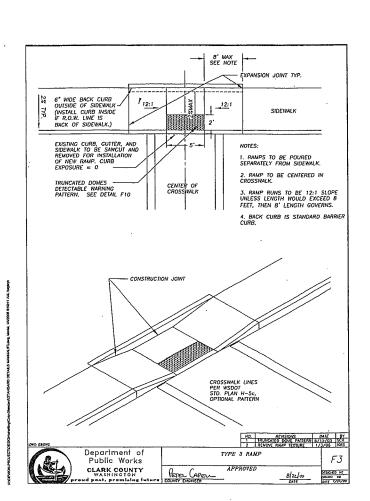
4. NO FILLER REQUIRED FOR SURFACE JOINTS.

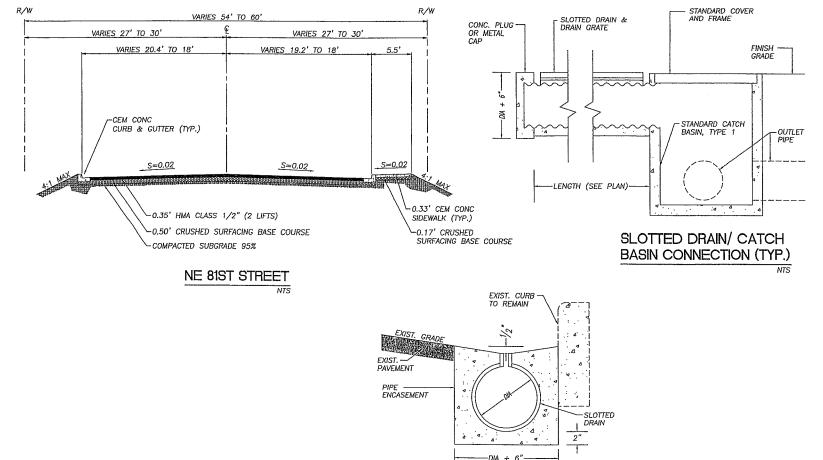
CLARK COUNTY





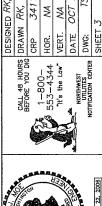






SLOTTED DRAIN SECTION (TYP.)

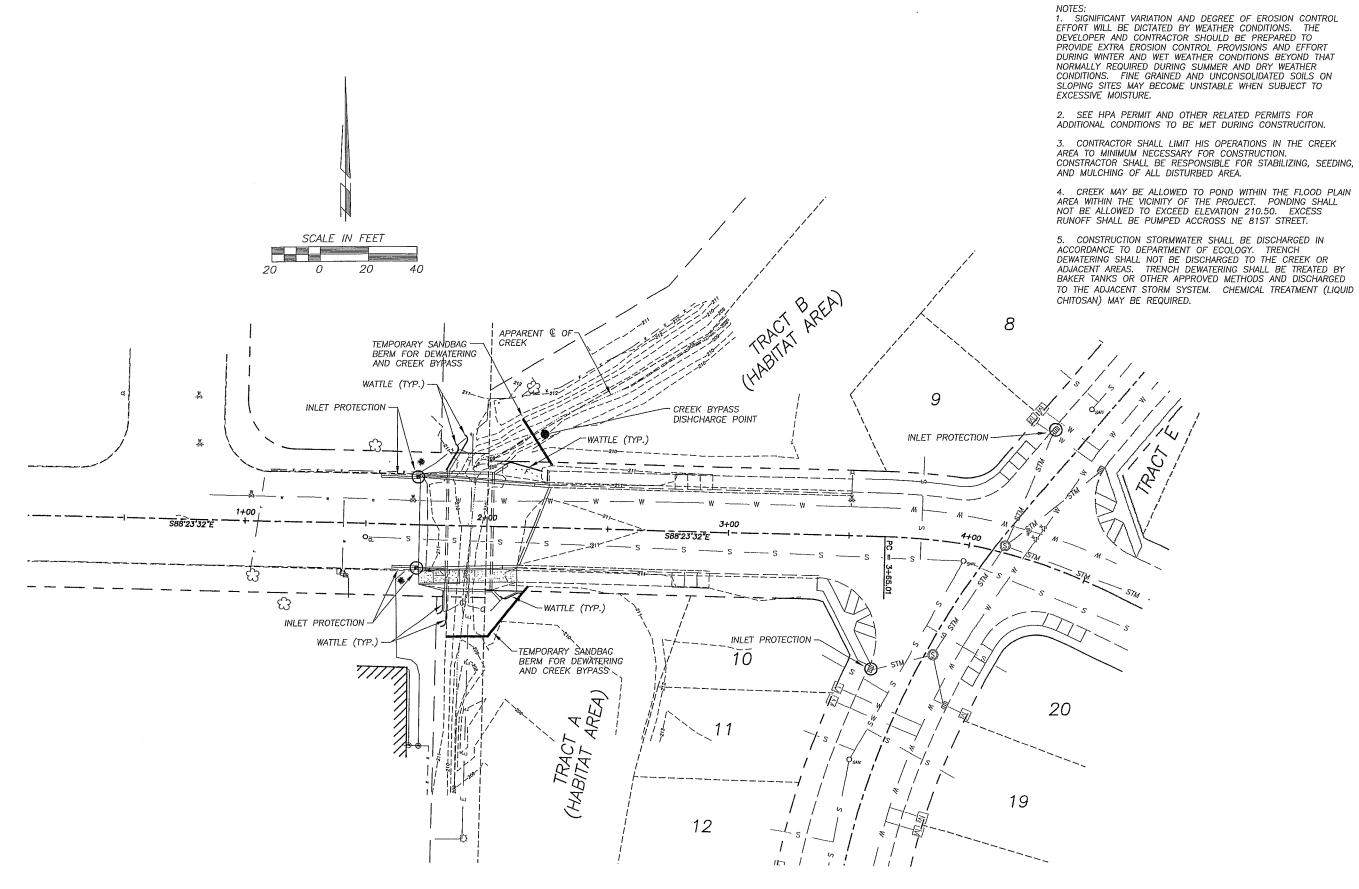
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1 HOURS DRAWN RH 70U DIG CRP 131. 00— 4344 HOR. 1"=





NE 81st STREET EROSION CONTROL PLAN

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<u>Construction Specifications:</u> Prepare the slope before the wattling procedure is started.

Shallow gullies should be smoothed as work progresses.

Dig small trenches across the slope on contour, to place rolls in. The trench should be deep enough to accommodate half the thickness of the roll. When the soil is loose and uncompacted, the trench should be deep enough to bury the roll 2/3 of its thickness because the ground will settle.

It is critical that rolls are installed perpendicular to water movement, parallel to the slope contour.

Construct trenches at contour intervals of 3—12 feet apart depending on steepness of slope. The steeper the slope, the closer together the trenches.

- sepuleur, areawic шител, AND MAINE SEEDS MIE ROLLS.

Lay the roll along the trenches fitting it snugly against the soil. Make sure no gaps exist between the soil and the straw wattle.

Use a straight bar to drive holes through the wattle and into the soil for the willow or wooden stakes.

Drive the stake through prepared hole into soil. Leave only or 2 inches of stake exposed above roll.

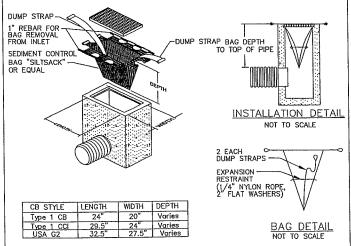
e"-10" DM.

If using willow stakes refer to Live Staking BMP.

Install stakes at least every 4 feet opart through the wattle. Additional stakes may be driven on the downslope side of the trenches on highly erosive or very steep slopes. Inspection and Maintenance:

Inspect the straw rolls and the slopes after significant storms. Make sure the rolls are in contact with the soil.

Repair any rills or gullys promptly.



INLET SEDIMENT CONTROL DEVICE - SILT SACK

1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROMDING THE CORRECT SIZE DEVICE FOR EACH INLET.

FOR NON-STANDARD CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).

3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/FT), AS PER THE MANUFACTURER'S SPECS.

4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT. FILTER SHALL BE CLEANED IN A MANNER WHICH ENSURES THAT ALL SEDIMENT REMAINS ON SITE.

5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED. 6. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS, SIZE OF FILTER INLET SACK TO BE DETERMINED BY MANUFACTURER.

7. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE BAG BECOMES HALF FULL.

8. SEE INLET PROTECTION NOTES STD. PLAN E-3

o: 6-34DWC	NO, REVISIONS 1 REVISE VERSION	DATE BY 11/10/01 SCH
Department of Public Works CLARK COUNTY WASHINGTON proud past, promising future	INLET PROTECTION TYPE 6 SILT SACK APPROVED COUNT DESIRED OILO OILO COUNT DESIRED DATE	FLAN No. DESCREE SCH DATE OF/07/07

STANDARD NOTES FOR EROSION CONTROL PLAN

- The Contractor shall install and maintain BMP's as shown and perform all actions necessary to prevent erosion, and control sediment from leaving the construction site.
 Site Contractor shall comply with Clark County Code Chapter 40.380.050.
- 2. All erosion control measures shall be in-place and in working condition prior to disturbing and exposing any soil surfaces (i.e. silt fence, construction entrance, sedimentation barriers, sedimentation traps).
- 3. All erosion prevention and control BMP's shall be maintained and repaired as needed to insure continued performance of their intended function. Needed repairs shall be made as soon as practicable. They are to remain in place and operational during all phases of construction. Construction activities shall not continue or resume until repairs to erosion control facilities are made and the facilities are functional. Any sediment leaving the site or discharging to a sensitive area shall be stopped and controlled immediately. Contaminated areas shall be cleaned and restored.
- 5. All sensitive or critical areas (wetlands, steep slopes, natural waterways), and buffers shall all be clearly delineated and clearly marked, and protected from sediment deposition.
 6. Sediment laden runoff shall be prevented from entering all existing storm water catch because and lates officed by constructions. basins and inlets affected by construction.
- 7. No exposed, bare soils shall remain unstabilized for more than two days during the period October 1 thru April 30 or for more than seven days during the period of May 1 through September 30. All disturbed soil surfaces shall be stabilized by a suitable application of "Best Management Practices".
- 8. Where feasible, no more than 500 feet of trench shall be open at one time. Excavated material shall be placed on the up—hill side of trenches provided it does not conflict with safety requirements.
- Dewatering devices shall discharge into a sediment trap or sediment pond. No discharge shall be made to a paved street or stormwater collection system without first
- 10. Cut and fill slopes shall be constructed in a manner that will minimize erosion. Erosion shall be controlled and prevented by such measures as roughening the surface, installation of interceptor ditches, terracing, covering with matting, mulch or plastic sheeting. Runoff shall be prevented from entering a slope and from undercutting the base
- 11. Any soil or debris transported onto roadways and sidewalks shall be removed. Deposits shall be completely removed by shoveling and/or sweeping. Washing shall not be utilized unless specifically approved in writing by the County.
- 12. All permanent infiltration systems shall be isolated and protected from sediment laden runoff entering to avoid risk of reducing the ability of the systems to infiltrate. Isolation and protection shall not be removed until the drainage area tributary to the system is completely stabilized.

	CONTINUE	D ON SHEET 2	REVISIONS	CATE B
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2	Department of Public Works	STANDARD NOT EROSION CONT		ECN
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STANDARD NOTES FOR EROSION CONTROL PLAN (CONTINUED)

- 13. All conveyance channels, both temporary and permanent shall be stabilized to prevent erosion of the channel. Stabilization shall extend to areas at outlets and downstream reaches vulnerable to erosion resulting from flow discharging from the channel.
- 14. If BMP's shown are utilized but are insufficient to prevent sediment from reaching water bodies, adjacent properties, or public rights—of-way; additional BMP's shall be implemented immediately to prevent further encroachment of sediment.
- 15. Stabilized areas shall be provided for employee parking and storage of construction materials. Erodeable stockpiles of earthen materials, such as topsoil, silty and clayey soils; and landscape materials, shall be covered when not being incorporated in the work. Erosion control BMP's shall be utilized as necessary to prevent sediment laden runoff from leaving or sediment being transported from these areas from vehicle activity.
- 17. The Contractor shall keep an inspection log of the condition of the erosion control facilities. Erosion control facilities shall be inspected at least weekly and after each rainfall. The inspection log shall be kept at the project site at a designated location and shall be available for review by the County. An individual that has successfully completed the County's Erosion Control Certification course shall perform inspections and maintain the
- 18. All temporary BMP's sholl be removed within 30 days after final site stabilization is achieved. Trapped sediment shall be deposited and stabilized on site. Areas disturbed resulting from removal shall be permanently stabilized.
- 19. Construction shall not be considered complete and acceptable until all disturbed soil surfaces have been protected from erosion with permanent landscaping, covering with impervious surfaces, restored to original undisturbed condition or permanently stabilized,
- 20. Vegetated stabilization and landscaping shall be fertilized, watered and maintained to insure that growth of vegetation is established and sustained.
- 21. During dry weather construction periods the contractor shall provide project-specific dust control measures that may include: Seeding, Mulching, Matting, Water, Tackifier, or Chemical Soil Stokilizers. The contractor shall maintain the dust control measures through dry weather periods until all disturbed areas have been stabilized. Immediately re-stabilize areas disturbed by contractor's operations or other activities (wind, water, vandalism, etc.).
- 22. Entry onto the construction site shall be restricted to a single approved entrance as shown on the plan. $\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \left(\frac{1}{2} \int_{-\infty}$
- 23. Maintenance and repair of heavy equipment and vehicles which involve potential contaminants (oil,solvents,hydraulic fluid, etc.) must be conducted in a manner which prevents contamination of soils, surface water and ground water. Tarps, drip pans, or other appropriate measures shall be used as necessary.
- 24. Stripping, topsoil, and unsuitable material stockpiles shall be hydroseeded with "regreen wheat x wheat grass hybrid" by Hobbs and Hobkins (or opproved equal). Maintenance of stockpile areas and reapplication of hydroseed covering shall be required if bare soil is present. During winter and wet weather conditions, stockpiles shall be covered with plastic sheeting per detail E-16.

 | NR. | ROMSONS | DUTE | DT. |

proceeding per detail 2 70.	SHEET 2 OF 2	
Department of Public Works	STANDARD NOTES (CONTINUED) FOR EROSION CONTOL PLAN	ECN2
CLARK COUNTY WASHINGTON proud post, promising luture	PETEL CAPEU OI/01/04 COUNTY ENGINEER OI/01/04	PLAN No. DESIGNED SCH DAURH SCH DATE 07/22/03

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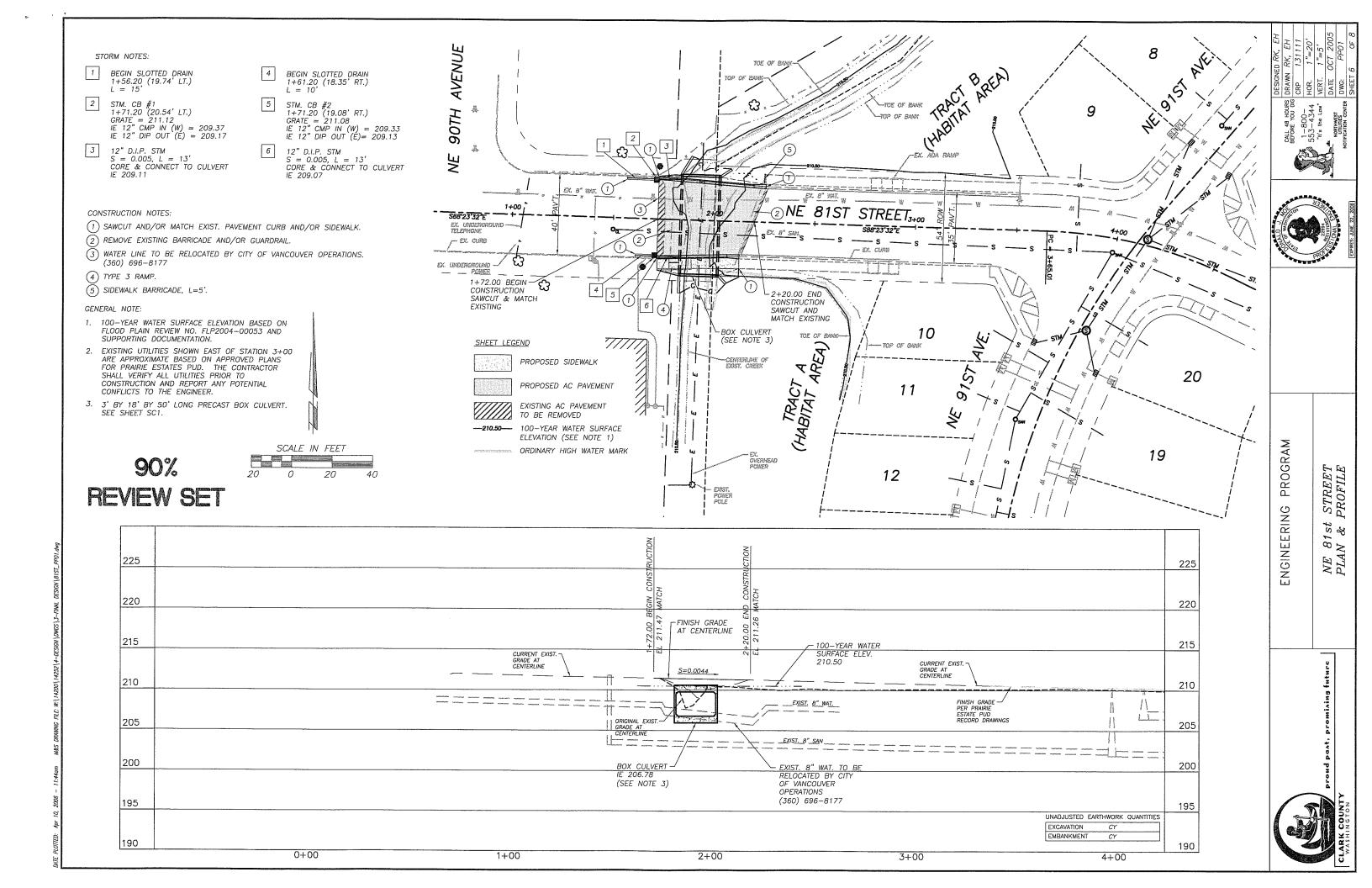


81st STREET CONTROL DETAILS NEEROSION

PROGRAM

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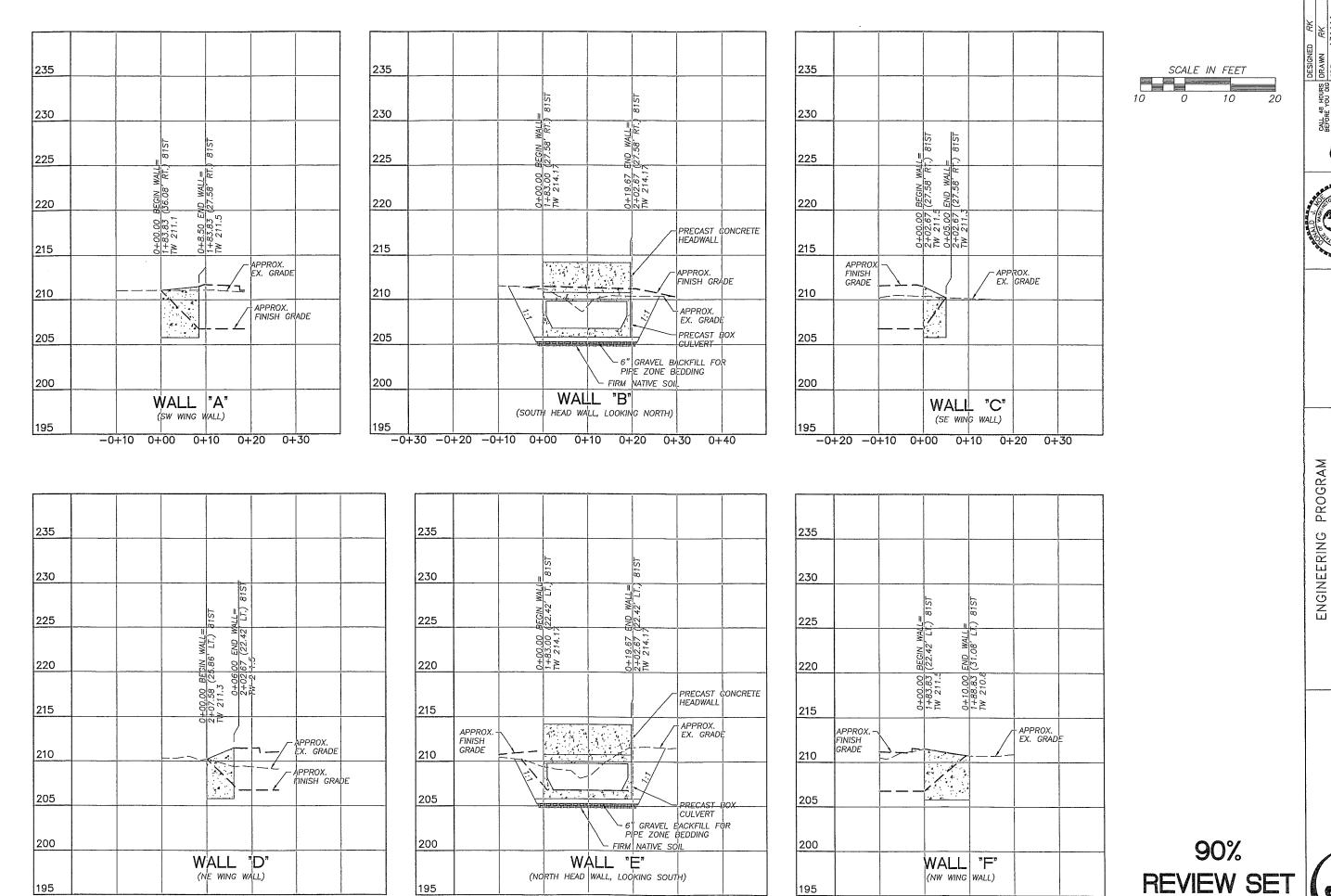
PROFILE

ENGINEERING PROGRAM

NE 81st STREET CREEK PLAN & 1 PADDEN

NOTE:

CREEK GRADE IMPACTED BY CONSTRUCTION OF SANITARY AND WATER, FALL 2005. CONTRACTOR TO RE—ESTABLISH ORIGINAL CREEK PROFILE.



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NE 81st STREET WALL PROFILES